

N<sup>o</sup> 24,585



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## COMPLETE SPECIFICATION.

### Improvements in the Manufacture of Artificial Teeth.

I, ANTONIO VILLAR, of Valladolid in the Kingdom of Spain, Dentist, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

5 This invention relates to the manufacture of Artificial teeth.

Among the many infirmities afflicting the human race those of the teeth occupy a prominent place, owing to the frequency with which they occur as well as to the pain the patient suffers therefrom.

10 Numerous means have been tried in all ages to cure these ills, among which the most radical has always been the extracting of the affected teeth, a violent measure and one which, although eradicating pain, also destroys a very necessary adjunct to the preservation of health and moreover prejudicially affects the appearance.

To remedy such evils Dental Prothesis was established with the object of replacing the lost teeth by artificial ones, employing first of all human teeth, then teeth of 15 animals and lastly mineral or incorruptible ones, made of porcelain, which cannot be improved upon as regards the nature of their composition but as regards their shape and form they may differ from those hitherto known.

The only substances employed for my crown-tooth are porcelain, which is used for the manufacture of all sorts of artificial teeth, and platinum which is the only material 20 capable of being embodied with porcelain.

My improved teeth consist of a front and a back face, side faces and a base.

The front face is merely made of porcelain thus precluding any metallic ring being seen when setting the tooth, which is not the case with other crown-teeth.

25 The side faces, also consisting of porcelain, serve, together with the inner edge of the body of the tooth, to allow of the insertion of a stationary platinum sheet or plate which constitutes the back face and base of the crown-tooth.

The base is hollow or concave and fluted in the inner portion of its front face with the view of making the tooth lighter and more adhesive when used in vulcanite working.

30 The object of my invention is to provide a tooth which when manufactured shall be ready for use as a plane tooth as a crown-tooth and for the so called bridge-work, thus avoiding in all cases counter-plating and such other operations as are indispensable for converting a plane tooth into a crown. Now, inasmuch as this attribute of my new system enables a great deal of time and work to be saved there having been 35 heretofore no tooth which could be used either with a base plate on vulcanite or as a crown, and, as the essential and peculiar characteristic of my tooth apart from its form, consists in the platinum plate which is flanged at its lower end and is fixed to the body thereof, its purpose being to allow of one tooth being welded to another without its being submitted to any other process than the manufacturing one, 40 the result of all the above will be that not only on account of its form but also because of its many and ready applications, my crown-tooth will prove a useful novelty.

[Price 8d.]



*Villar's Improvements in the Manufacture of Artificial Teeth.*

The accompanying drawings that shew my system, forming the object of the present patent, give a clear idea thereof.

Figure 1 represents an upper central tooth :

Figure 2 represents a lateral tooth :

Figure 3 represents a dogtooth :

Figure 4 represents a bicuspid grinder :

Figure 5 represents a second bicuspid grinder :

Figure 6 represents a first large grinder :

Figure 7 represents a second large grinder :

Figure 8 is a view of the body of the porcelain tooth with its base upwards, and 10 showing the palate face :

Figure 9 is a view of the hereinafter described platinum plate detached :

Figure 10 is a view of my complete tooth with the said platinum plate connected to the body thereof; and,

Figure 11 is a view of the complete tooth with its base downwards and also shewing 15 the palate face.

According to the invention the teeth are formed of porcelain with their outside surfaces convex instead of flat as has heretofore been the case and each tooth is provided with a plate A of platinum or other suitable material having a flange  $\alpha$ , the said plate being suitably secured to the tooth. The inside concave surface of the 20 tooth forms with the platinum or other plate A a cavity B as clearly seen in the figures, whereby the tooth can be fitted in position, the said cavity B or hollow base also serving for the creation of a vacuum to ensure the closer fitting of the tooth.

As shewn the inner concave surface or base of the tooth is grooved at C to cause the tooth to engage more securely with the caoutchouc or the like to which it is to 25 be fitted.

D is the lingual *i.e.* the porcelain tongue or palate face of the tooth.

This new form of teeth has the following advantages :

1. Owing to their shape every sort of work can be done in Logan crowns, bridge work, suspension bridge work and removable crowns and they are readily applicable 30 to plates of all kinds of plastic substances, such as caoutchouc and celluloid because although my teeth lack the fastener or pins of plane teeth this is compensated for by the greater safety afforded by the hollow base B and flange  $\alpha$ ; they are also applicable to metallic plates without requiring any special preparation on the part of 35 the patient.

2. They can be used as crowns not only on account of the hollowness of the base but also because of their shape and since a shank may be added their preparation proves as easy as that of teeth of the Logan type.

3. The work in caoutchouc will be less bulky and stronger than hitherto as by this form of teeth the resistance only exists in the socket arch and not in the whole 40 mechanism, as is the case with other types of teeth.

4. Partial work is so simplified that there is no need for making metal moulds for joining and as the use of base plates can be dispensed with there is no necessity for making any die.

5. Owing to their simple application as crowns and to the easy way in which these 45 crowns can be welded to each other, my teeth prove highly useful in the so-called bridge-work since by merely adjusting and welding the crowns of the manufactured teeth by their metallic continuous faces, we obtain a bridge as desired and avoid the innumerable manipulations which are indispensable in other systems not excluding the Richmond system now so much in vogue. 50

6. My system has been specially designed for the construction of teeth without a palate and by its employment this difficult problem is resolved in the greater number of cases.

7. Teeth made according to my system have a closer resemblance to natural ones 55 especially on the side facing the tongue or palate. From the combination of the advantages it follows that the new type of teeth is capable of as general a use as ordinary teeth, which it is intended to substitute and if to this is added the



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*Villar's Improvements in the Manufacture of Artificial Teeth.*

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importance of its application as crowns my system should replace all other types of teeth hitherto employed owing to their easy adaptation to all cases in general.

My crown-tooth has nothing in common with the Brown system neither in the porcelain portion nor in the platinum ring which is replaced by the platinum plate 5 shown in figure 9. As regards its applications or uses these differ also entirely from the Brown tooth, the latter being only a crown to be set on natural fangs or roots while my crown-tooth may be employed in vulcanite working or in any other system as hereinbefore stated.

My tooth differs also from the Matteson and Richmond teeth in that these two 10 systems are made with plane teeth or special teeth for metal which requires such manipulations as are inherent to counterplating, and the modelling of the metallic crown, while the tooth of my invention once it is manufactured is already fit for setting on a root by merely adjusting it which does away with the work indispensable in the other systems. Further, the Matteson and Richmond patents do not refer to 15 the manufacture of teeth but to working systems which for the most part can be dispensed with by the crown-tooth of my invention. Lastly, as regards the Flower Hollingworth crowns these also have nothing in common with these of my system as can be easily seen by referring to the drawings.

In short, the teeth of my invention which may be used in india-rubber, celluloid 20 or metal-plate working differs from all systems heretofore known and has the advantage over these of being more resistant and more easy to set apart; consequently my tooth offers the immense advantage of being able to make with only one model of the tooth all sorts of dentistry work which is not the case with all other teeth so far known, as every case or special work requires a special tooth.

25 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is :—

1. The improvements in the manufacture of artificial teeth, substantially as hereinbefore described.
- 30 2. Artificial teeth constructed as hereinbefore described and illustrated in the accompanying drawing.

Dated this 3rd day of November 1896.

G. F. REDFERN & Co.  
4, South Street, Finsbury, London. Agents for the Applicant.

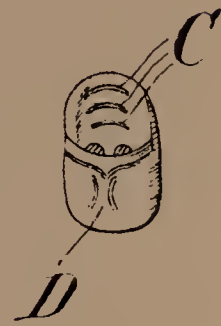
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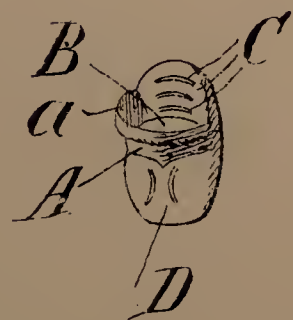
*Fig. 8.*



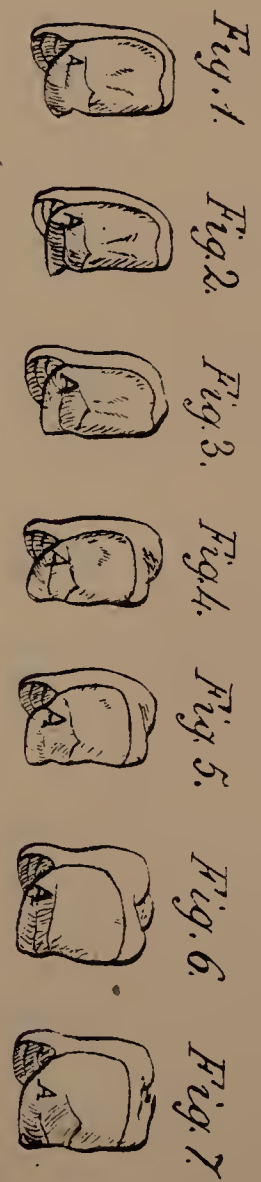
*Fig. 9.*



*Fig. 10.*



*Fig. 11.*



This Drawing is a full-size reproduction of the Original.

